

MADE IN VIETNAM

SAMSUN[®]
SOLAR

PROFESSIONAL **GEL** BATTERY

100Ah - 250Ah

**DEEP
DISCHARGE
TECHNOLOGY**



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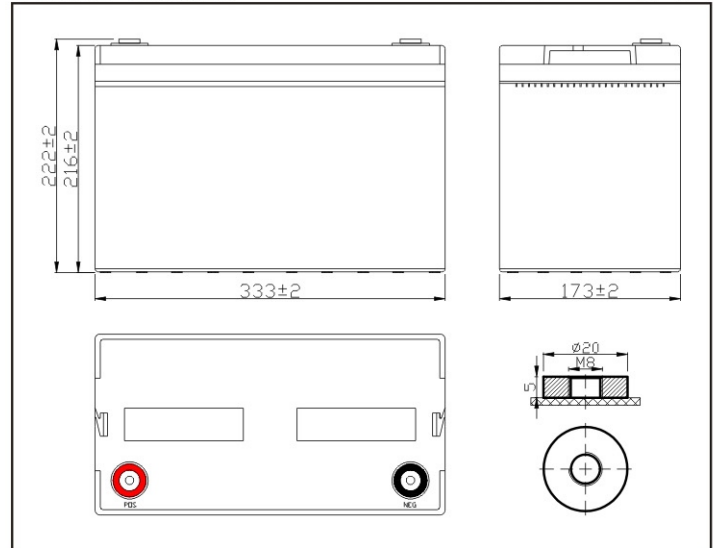
100AH

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Plane Chart:

Unit:(mm) Terminal type:(T3)



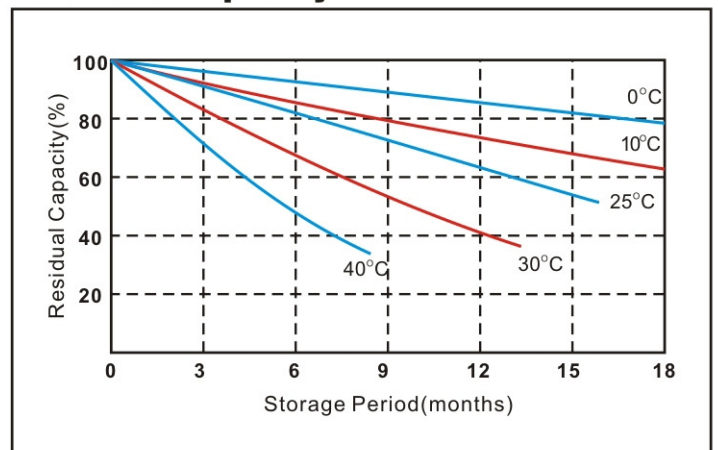
ISO 9001
ISO 14001
OHSAS18001



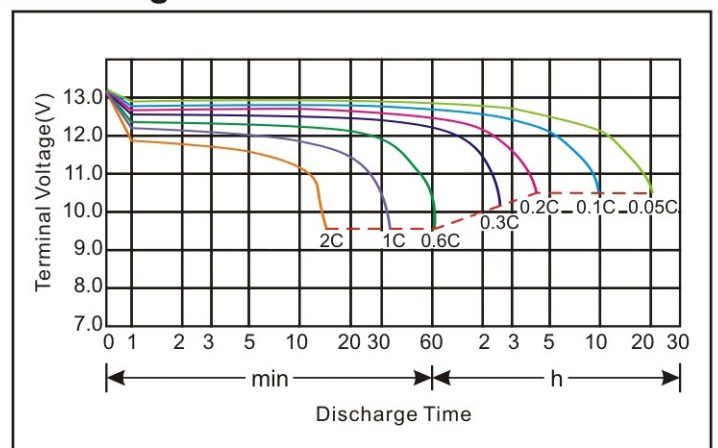
Parameter Chart:

Volts		12V
Capacity(25°C)	10 hours rate (10A)	100Ah
Discharge Current Testing (25°C)	1 hours rate (55A)	57Ah
	3 hours rate (25A)	77Ah
Internal Resistance	Full Charged Battery 25°C	4.2mΩ
Capacity Affected By Temperature	40°C	104%
	25°C	100%
	0°C	83%
	-15°C	65%
Residual Capacity (25°C)	Capacity After 3 Months Storage	91%
	Capacity After 6 Months Storage	82%
	Capacity After 12 Months Storage	65%
Charge (Constant Voltage)	Cycle (25°C)	Initial Charging Current Less Than 30A Voltage 14.5~14.9V
	Float (25°C)	Charge Voltage 13.6~13.8V
Weight (Approx)		28.0Kg

Residual Capacity

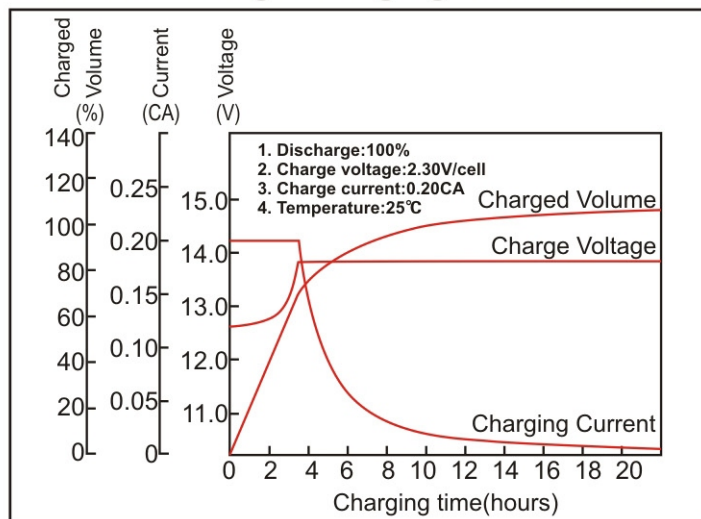


Discharge Current 25°C

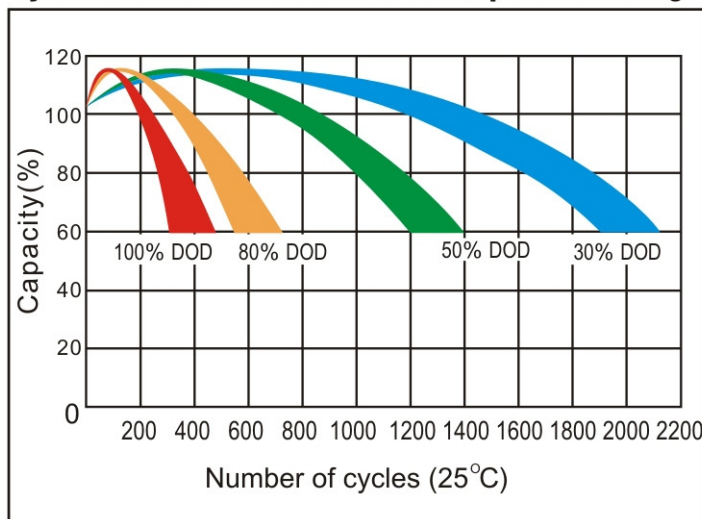


★The above are average and data obtained from the first 3 charge/discharge cycles. These are not minimum values.

Constant voltage charging characteristics



Cycle service life in relation to the depth of discharge



Constant Current Discharge Characteristics (A, 25°C)

F.V/Time	10min	15min	30min	60min	2h	3h	5h	8h	10h	20h
9.60V	217.8	173.3	106.9	64.4	36.1	26.1	18.3	12.1	10.1	5.4
10.2V	206.9	166.3	103.0	61.8	35.6	25.7	18.0	12.0	10.0	5.3
10.5V	201.0	162.4	100.0	60.5	35.3	25.5	17.8	12.0	10.0	5.3
10.8V	194.0	158.4	97.8	58.7	34.9	25.2	17.6	11.9	10.0	5.2

Constant Power Discharge Characteristics (Watt, 25°C)

F.V/Time	10min	15min	30min	60min	2h	3h	5h	8h	10h	20h
9.60V	2352.2	1902.8	1199.9	733.6	418.8	306.9	216.8	144.5	121.8	64.3
10.2V	2234.4	1826.6	1155.3	703.9	412.8	302.9	212.9	143.9	120.8	63.6
10.5V	2170.1	1782.0	1145.4	699.9	408.9	300.0	209.9	143.6	119.8	63.4
10.8V	2095.8	1739.4	1097.9	669.2	404.9	297.0	207.9	142.6	118.2	63.0

Capacity Factors With Different Temperature

Battery Type		-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
GEL Battery	12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%

★The above are average and data obtained from the first 3 charge/discharge cycles. These are not minimum values.

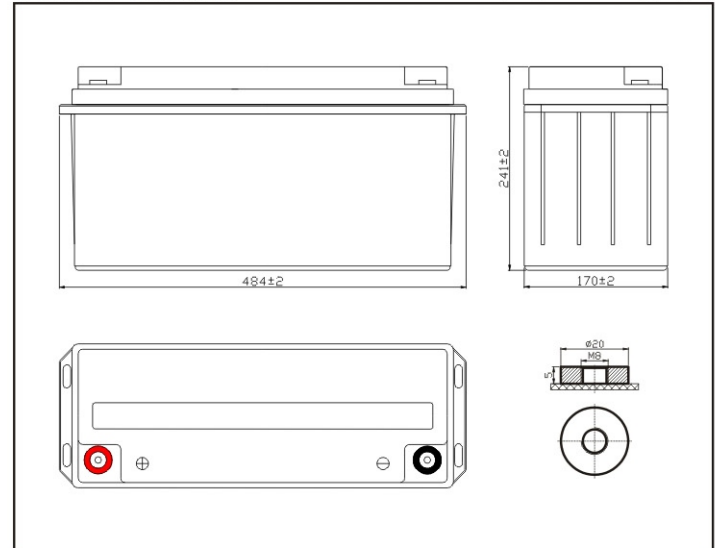
150AH

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Plane Chart:

Unit:(mm) Terminal type:(T3)



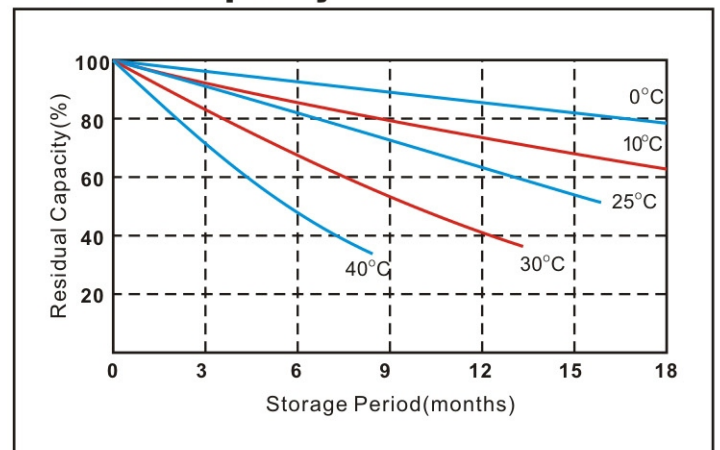
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ISO 14001
OHSAS18001



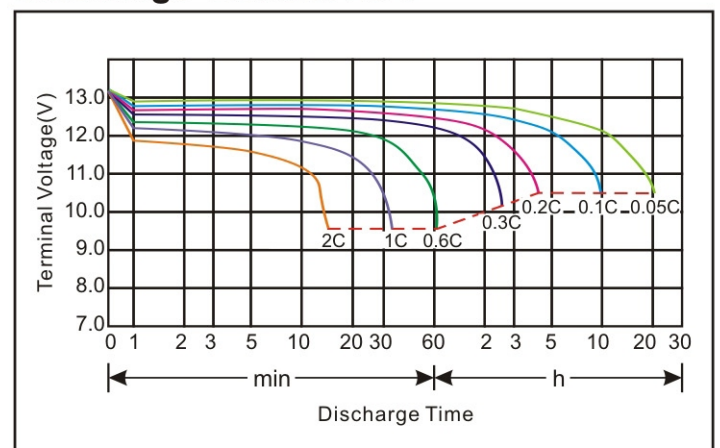
Parameter Chart:

Volts		12V
Capacity(25°C)	10 hours rate (15A)	150Ah
Discharge Current Testing (25°C)	1 hours rate (82.5A)	83Ah
	3 hours rate (37.5A)	113Ah
Internal Resistance	Full Charged Battery 25°C	3.4mΩ
Capacity Affected By Temperature	40°C	104%
	25°C	100%
	0°C	83%
	-15°C	65%
Residual Capacity (25°C)	Capacity After 3 Months Storage	91%
	Capacity After 6 Months Storage	82%
	Capacity After 12 Months Storage	65%
Charge (Constant Voltage)	Cycle (25°C)	Initial Charging Current Less Than 45A Voltage 14.5~14.9V
	Float (25°C)	Charge Voltage 13.6~13.8V
Weight (Approx)		42.5Kg

Residual Capacity

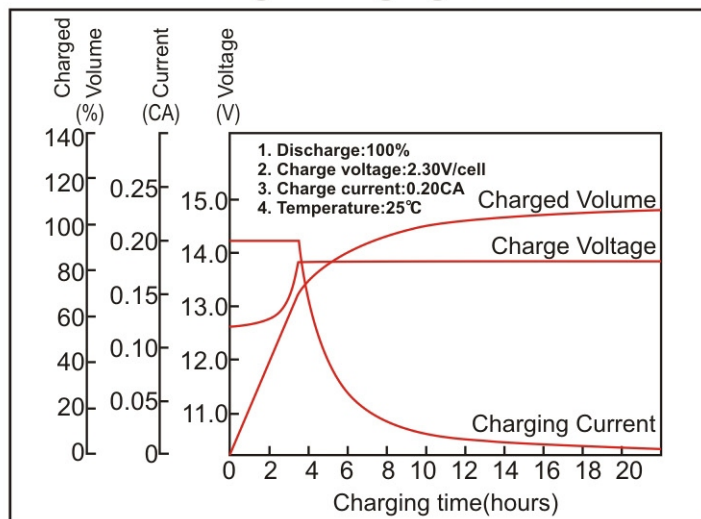


Discharge Current 25°C

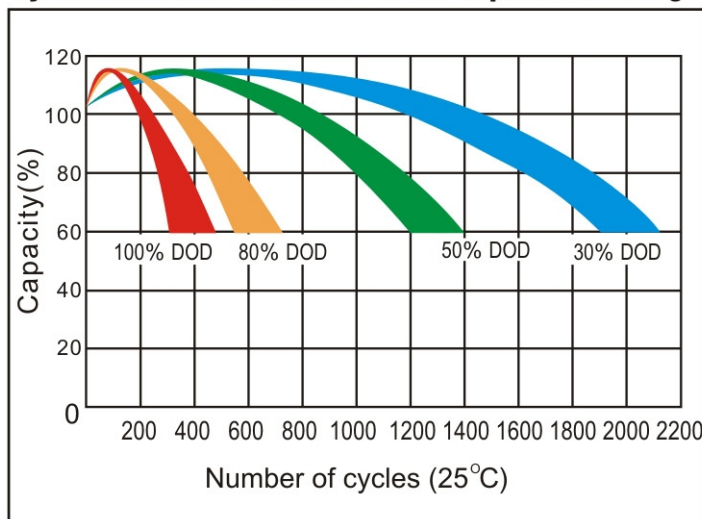


★The above are average and data obtained from the first 3 charge/discharge cycles. These are not minimum values.

Constant voltage charging characteristics



Cycle service life in relation to the depth of discharge



Constant Current Discharge Characteristics (A, 25°C)

F.V/Time	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	267.3	158.4	96.5	54.3	39.2	31.1	27.3	18.1	15.1	7.9
10.2V	256.4	152.5	92.7	53.5	38.6	30.7	26.9	17.9	15.1	7.8
10.5V	251.5	148.5	90.8	53.0	38.2	30.5	26.6	17.8	15.0	7.7
10.8V	243.5	144.5	88.0	52.4	37.8	29.5	26.4	17.8	15.0	7.7

Constant Power Discharge Characteristics (Watt, 25°C)

F.V/Time	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	2935.4	1777.1	1100.9	628.7	461.3	365.3	322.7	214.8	181.2	94.5
10.2V	2815.6	1710.7	1056.3	618.8	454.4	360.4	318.8	212.9	179.2	93.9
10.5V	2760.1	1666.2	1034.6	612.8	449.5	358.4	314.8	211.9	178.2	93.2
10.8V	2674.0	1621.6	1002.9	606.9	445.5	347.5	312.8	210.9	177.2	92.7

Capacity Factors With Different Temperature

Battery Type		-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
GEL Battery	12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%

★The above are average and data obtained from the first 3 charge/discharge cycles. These are not minimum values.

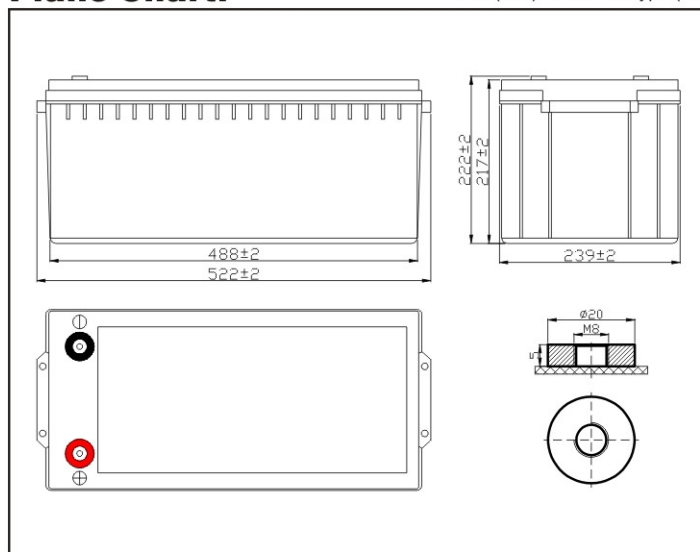
200AH

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Plane Chart:

Unit:(mm) Terminal type:(T3)



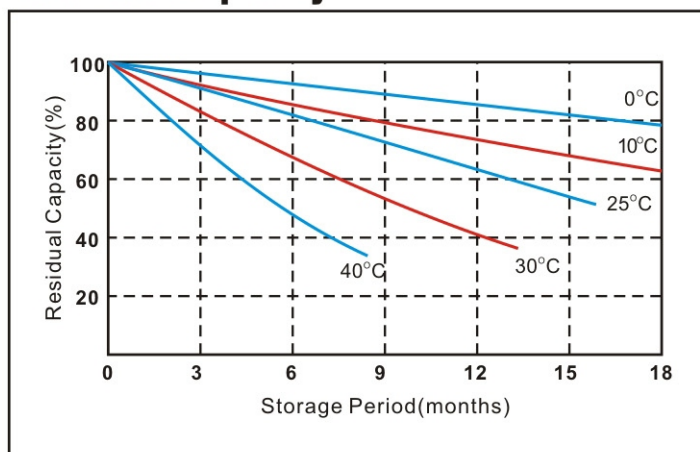
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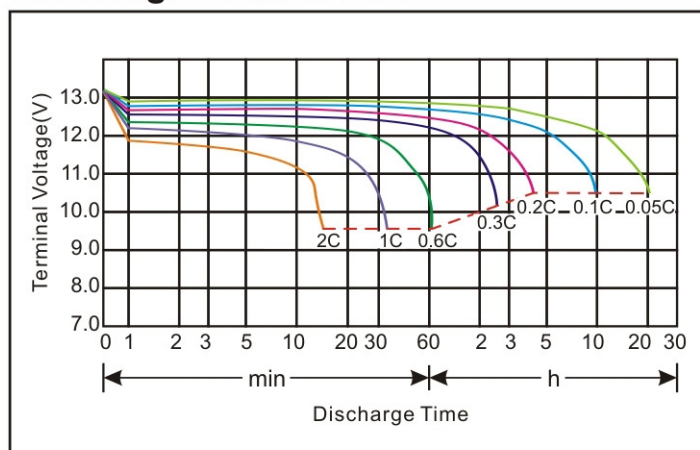
Parameter Chart:

Volts		12V
Capacity(25°C)	10 hours rate (20A)	200Ah
Discharge Current Testing (25°C)	1 hours rate (110A)	110Ah
	3 hours rate (50A)	150Ah
Internal Resistance	Full Charged Battery 25°C	3.2mΩ
Capacity Affected By Temperature	40°C	104%
	25°C	100%
	0°C	83%
	-15°C	65%
Residual Capacity (25°C)	Capacity After 3 Months Storage	91%
	Capacity After 6 Months Storage	82%
	Capacity After 12 Months Storage	65%
Charge (Constant Voltage)	Cycle (25°C)	Initial Charging Current Less Than 60A Voltage 14.5~14.9V
	Float (25°C)	Charge Voltage 13.6~13.8V
Weight (Approx)		55.0Kg

Residual Capacity

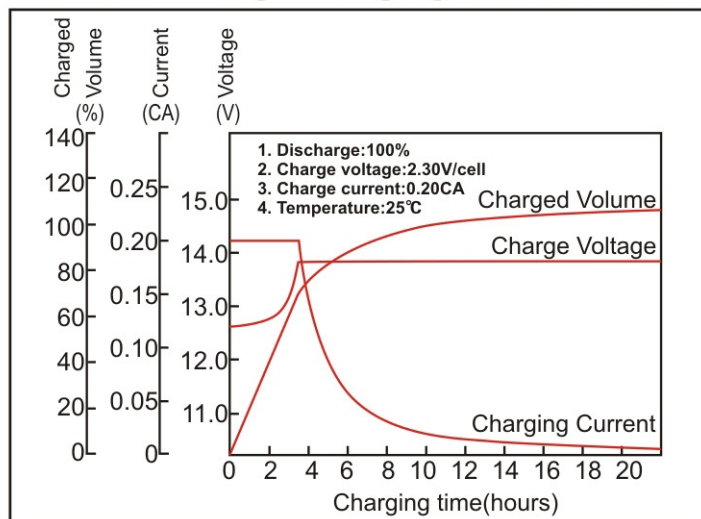


Discharge Current 25°C

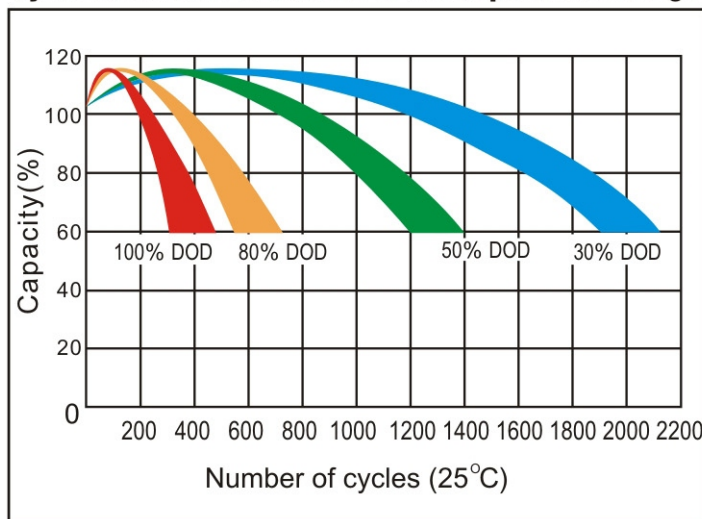


★The above are average and data obtained from the first 3 charge/discharge cycles. These are not minimum values.

Constant voltage charging characteristics



Cycle service life in relation to the depth of discharge



Constant Current Discharge Characteristics (A, 25°C)

F.V/Time	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	366.3	207.9	128.7	72.4	54.5	41.4	37.8	24.1	20.1	10.2
10.2V	351.5	200.0	123.8	71.3	53.0	40.9	36.6	23.9	20.1	10.2
10.5V	344.5	195.0	120.8	70.7	52.6	40.6	36.3	23.8	20.0	10.1
10.8V	333.6	190.1	117.8	69.8	51.9	39.4	35.9	23.5	20.0	10.1

Constant Power Discharge Characteristics (Watt, 25°C)

F.V/Time	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	4022.4	2332.4	1467.2	837.5	632.6	487.1	439.6	285.1	239.6	122.8
10.2V	3861.0	2239.4	1410.8	824.7	622.7	481.1	432.6	283.1	238.5	121.8
10.5V	3782.8	2187.9	1376.1	817.7	617.8	477.2	428.7	282.2	237.6	120.8
10.8V	3686.0	2127.5	1338.5	807.8	610.8	463.3	424.7	278.2	236.8	120.8

Capacity Factors With Different Temperature

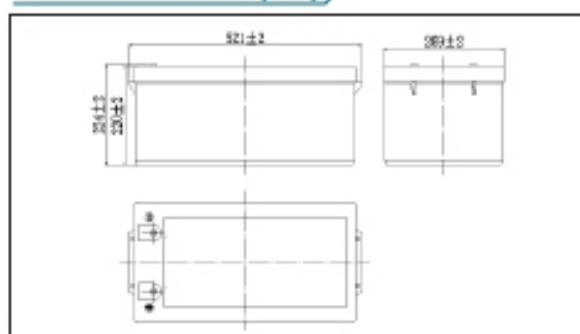
Battery Type		-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
GEL Battery	12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%

★The above are average and data obtained from the first 3 charge/discharge cycles. These are not minimum values.

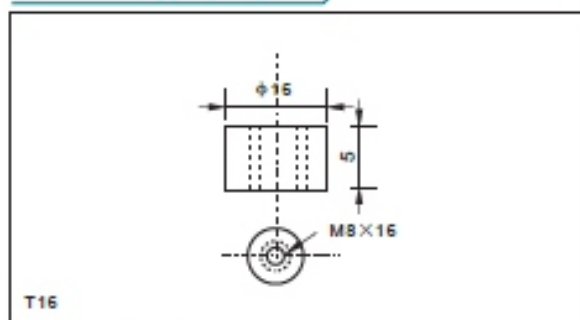
● Specifications

Nominal Voltage		12V
Rated capacity (10 hour rate)		250Ah
Dimensions	Length	521±2mm(20.51inch)
	Width	269±2mm(10.59inch)
	Height	220±2mm(8.66inch)
	Total Height	224±2mm(8.82inch)
Approx. Weight		70kg±3%

● Outer dimensions (mm)



● Terminal Type (mm)



● Characteristics

Capacity (25°C)	10HR(10.8V)	250Ah
	3HR(10.8V)	187.5Ah
	1HR(10.5V)	140Ah
Terminal type		T16
Internal resistance (Fully charged, 25°C)		Approx. 2.8m Ω
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge (25°C)	3 months	Remaining Capacity: 91%
	6 months	Remaining Capacity: 82%
	12 months	Remaining Capacity: 65%
Nominal operating temperature		25°C ± 3°C (77°F ± 5°F)
Operating temperature range	Discharge	-15°C ~ 50°C (5°F ~ 122°F)
	Charge	-10°C ~ 50°C (14°F ~ 122°F)
	Storage	-20°C ~ 50°C (-4°F ~ 122°F)
Float charging voltage(25°C)		13.50 to 13.80V Temperature compensation: -18mV/°C
Cyclic charging voltage(25°C)		14.40 to 14.70V Temperature compensation: -30mV/°C
Maximum charging current		50A
Maximum discharge current		1500A(5 sec.)
Designed floating life(20°C)		12years

● Construction

Component	Positive plate	Negative plate	Container	Cover	Separator	Electrolyte	Safety valve	Terminal
Raw material	Lead dioxide	Lead	ABS	ABS	AGM	Gel	Rubber	Copper

● Constant Current Discharge Characteristics Unit: A(25°C, 77°F)

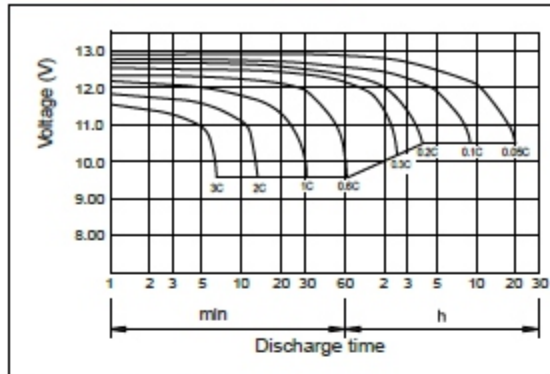
F.V/Time	15min	30min	60min	2h	3h	4h	5h	6h	8h	10h	20h
9.60V	400	243	150	91.4	65.0	51.0	43.4	38.3	30.6	25.5	13.5
9.90V	390	238	148	90.8	64.6	50.7	43.1	38.0	30.4	25.4	13.5
10.2V	376	230	144	90.0	64.2	50.4	42.8	37.8	30.2	25.3	13.4
10.5V	363	225	140	88.7	63.8	50.0	42.5	37.5	30.0	25.2	13.3
10.8V	344	217	135	86.4	62.5	48.5	41.2	36.4	29.1	25.0	13.3

● Constant Power Discharge Characteristics Unit: W(25°C, 77°F)

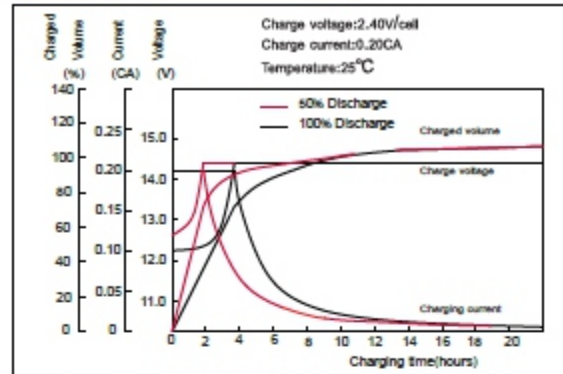
F.V/Time	15min	30min	60min	2h	3h	4h	5h	6h	8h	10h	20h
9.60V	4392	2721	1710	1058	765	600	512	452	364	304	162
9.90V	4287	2666	1684	1052	760	596	509	449	361	303	162
10.2V	4128	2585	1642	1042	755	592	506	446	359	302	161
10.5V	3988	2522	1590	1027	750	588	502	443	356	301	160
10.8V	3777	2430	1539	1001	735	570	487	430	346	299	159

Note: The above characteristics data can be obtained within three charge or discharge cycles.

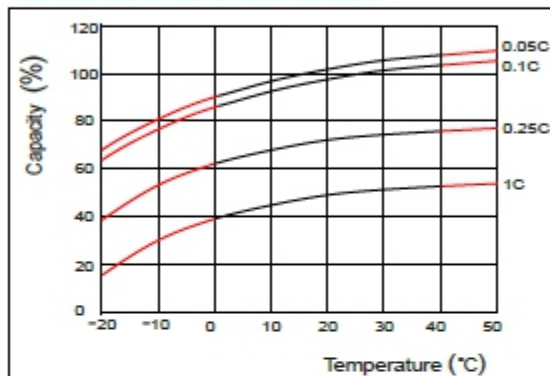
● Discharge characteristics(25°C)



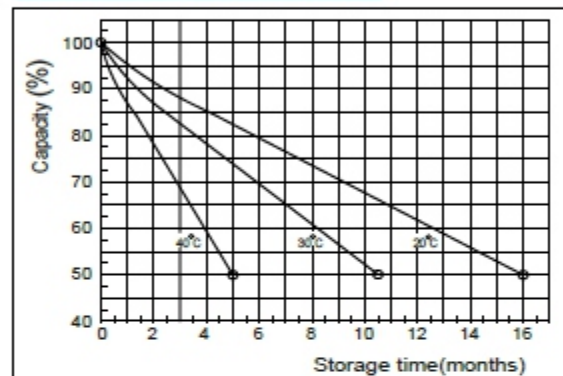
● Charging characteristics (25°C)



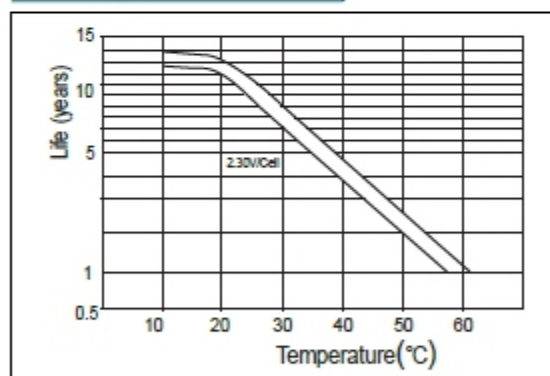
● Temperature effects on Capacity



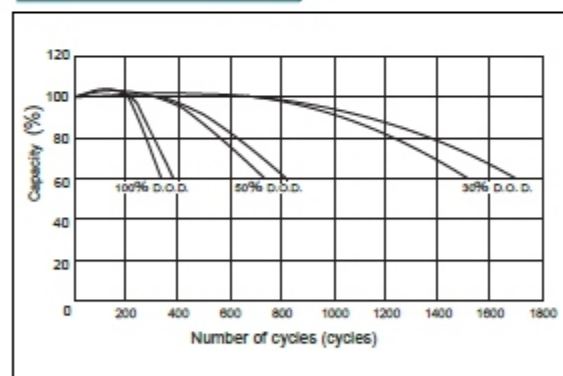
● Self-discharge characteristics



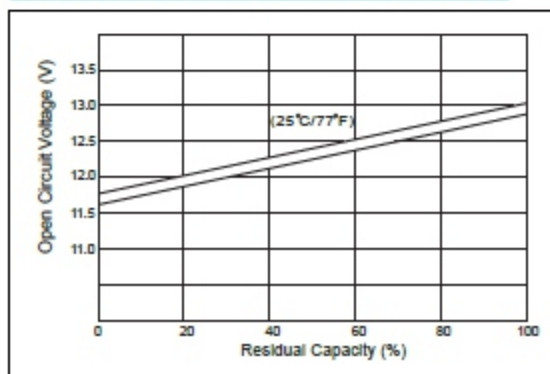
● Floating life on Temperature



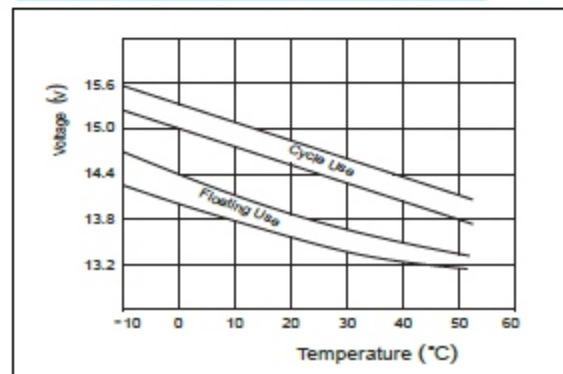
● Cycle life on D.O.D (25°C)

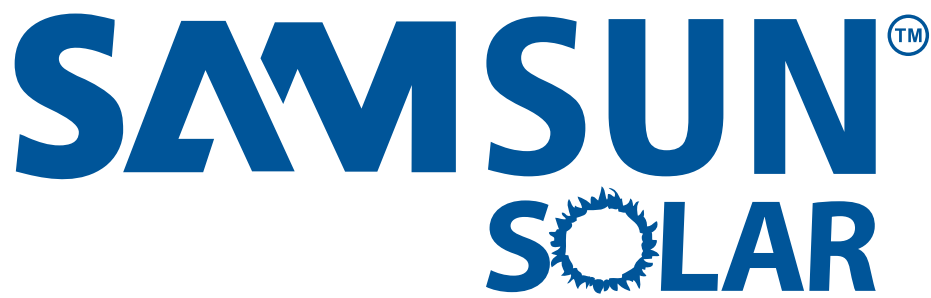


● The relationship for OCV and Capacity (25°C)



● The relationship for Charging voltage and Temperature





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